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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/658,930	09/09/2003	Valentin G. Barba	SMITHS/18DIV	3116

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EXAMINER

PALABRICA, RICARDO J

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,930

Applicant(s)

BARBA, VALENTIN G.

Examiner

Rick Palabrica

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 4,9,11,15,20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-8, 10, 12-14, 16-19 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/13/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Invention I and species A, C, and E, and amendment of claims 12-22 to invoke 35 U.S.C. 112, sixth paragraph in the reply filed on 9/13/04, is acknowledged.

The Examiner agrees that claims 1-3, 5-8, 10, 12-14, 16-19 and 21 are readable on the elected invention. Claims 4, 9, 11, 15, 20 and 22 are withdrawn from consideration because they are directed to the non-elected invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Aoyama (JP 11-229691) or Arnold et al. (U.S. 5,180,038). Either one of the two references disclose a linear actuator.

Applicant's claim language reads on the apparatus of Aoyama as follows (see Figs. 1-3): a) "means for mechanical storage means" reads on the expedient for storing mechanical energy in coil spring 14, e.g., compression of the elastic spring (see paragraph 0022); b) "electrical storage means" reads on battery VB (see paragraph 0025); c) "means for powering the actuator" reads on electric motor 3 and energy released by decompressing spring 14 (see paragraphs 0020 and 0022); d) "means for

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controlling the linear velocity of the actuator” reads on controller 18 (see paragraph 0031).

Applicant’s claim language reads on the apparatus of Arnold et al. as follows (see Fig. 1): a) “means for mechanical storage means” reads on the expedient for storing mechanical energy in compression spring 30, e.g., compression of the elastic spring (see col. 3, lines 33+); b) “electrical storage means” reads on battery 160 (see col. 5, lines 41+); c) “means for powering the actuator” reads on electric motor 50 and the energy released by decompressing spring 30 (see col. 4, lines 45+); d) “means for controlling the linear velocity of the actuator” reads on master controller 100 (see col. 5, lines 15+, and col. 6, lines 38+).

The claims are replete with statements that are essentially statements of intended or desired use. For example, “for providing improved reliability in an aircraft door flight lock actuator”, “to complete an unlocking stroke in the absence of aircraft power”, “during a powered locking stroke of the actuator”, etc. These clauses, as well as other statements of intended use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647.

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Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does.”
Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525,1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Any one of the systems in the cited references is capable of being used in the same manner and for the intended or desired use as the claimed invention. Note that is sufficient to show that such capability exists, as in the case of the two cited inventions.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Aoyama in view of Kurachi et al. (U.S. 6,322,114), or, alternatively, Kurachi et al. in view of Aoyama.

As to claim 1, Kurachi et al. disclose a latch unit for preventing disengagement and therefore improving reliability of an aircraft door (see Fig. 1-11). They teach that said latch unit is used in various equipment, including fixed and movable members and installed in compartments of a car, train, airplane or the like (see col. 1, lines 6+).

Kurachi et al. do not teach the details of the claimed actuator.

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Also as to claim 1 also, Aoyama discloses the elements of the claimed actuator as discussed in section 2 above. He teaches the use of his actuator for an automobile door but is silent about its use for an aircraft door. He teaches, however, that his actuator circuit has an advantage of being simple (see paragraph 0009).

As to claim 2, Aoyama's coil is compressed when the shaft 6 is displaced upwards (see Fig. 1).

One having ordinary skill in the art would have recognized that an automobile door and an aircraft door have the same function, i.e., to permit easy ingress and egress of occupants, and to remain safely closed while the transport vehicle is in motion.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by Kurachi et al., by the teaching of Aoyama, to include an actuator powered by both mechanical and electrical energy and whose linear velocity is controlled, to gain the advantages thereof (i.e., simple construction), because such modification is no more than the use of a well-known expedient in the art, and the substitution of one door latch/actuator configuration by another well-known configuration.

Alternatively, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use Aoyama's actuator/latch in an aircraft door because of the teaching of Kurachi et al. that actuators/latches used in automobile doors are also used in an aircraft doors.

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4. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Aoyama and Kurachi et al.

As to claim 3, it is a notoriously known fact that an electrically charged capacitor acts in the same manner as a battery because both produce direct current, and a capacitor has the advantage of being less expensive and requires less maintenance than a battery. As to the charging of the capacitor during the locking stroke and its powered stall, this is obvious because these are the times when this capacitor is available for charging. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by the Aoyama-Kurachi et al. combination, to replace a battery with a capacitor, to gain the advantages thereof (i.e., less expensive), because such modification is no more than the use of a well-known expedient in the art, and the substitution of one electrical energy source by another well-known source.

As to claim 5, it is a notoriously known fact that safety and reliability are prime considerations in human transport industries, especially aircrafts, and having a redundancy in systems is advantageous. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by the Aoyama-Kurachi et al. combination, to make the mechanical storage means and the electrical storage means redundant, to gain the advantages thereof (i.e., higher reliability), because such modification is no more than the application of a well-known principles in the exercise of the art.

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5. Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over either one of Aoyama or Arnold et al.

These claims are unpatentable over Aoyama or Arnold et al. for the same reasons given in section 4 above as to why it is obvious to: a) replace a battery with a capacitor; and b) make the mechanical storage means and electrical storage means redundant with each other.

6. Claims 6-8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama-Kurachi et al. combination, as applied to claims 3 and 5 above, and further in view of Moh et al. (U.S. 5,382,890). The Aoyama-Kurachi et al. combination discloses the applicant's claims except for the specifics of control of the motor speed and subsequently the velocity of the actuator.

Moh et al. teaches an apparatus and method for controlling the speed of a brushless motor, which allows for maximum torque without damaging the motor windings (see col. 1, lines 55+). Note that the claims do not limit the motor of the claimed invention to any specific motor, and therefore the brushless motor of Moh et al. is not precluded.

Applicant's claim language reads on Moh et al. as follows (see Fig. 1): a) "sensor of rotational speed of the motor" reads on Hall sensors 24; b) "sensed first current supplied to the motor" reads on sensed voltage 30 (Note: this voltage has an inherent current associated with it); c) "current reduction if rotational speed is higher than maximum speed or it current is higher than maximum" reads on the action

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provided by current limiter 14; d) "shunted second current into damper circuit" reads on current limit value 32 that feeds into limiter, the latter being a "damper"; e) "reduced voltage supply to motor" reads on the action of the controller 12.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, as disclosed by the Aoyama-Kurachi et al., by the teaching of Moh et al., to use the latter's motor speed control method, to gain the advantages thereof (i.e., develop maximum torque without damaging the motor windings), because such modification is no more than the use of a well-known expedient in the art, and the substitution of one motor speed control method by another well-known method.

7. Claims 17-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoyama or Arnold et al., as applied to claims 14 and 16 above, and further in view of Moh et al. Either one of Aoyama or Arnold et al. discloses the applicant's claims except for the specifics of control of the motor speed and subsequently the velocity of the actuator.

As to the teaching of Moh et al. on motor speed control and the advantage of his apparatus, see section 6 above.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by either one of Aoyama or Arnold et al., by the teaching of Moh et al., to use the latter's motor speed control system, to gain the advantages thereof (i.e., develop maximum torque without

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damaging the motor windings), because such modification is no more than the use of a well-known expedient in the art, and the substitution of one motor speed control method by another well-known method.

The claims are replete with statements that are either essentially method limitations or statements of intended or desired use. For example, "if the rotational speed is higher than a maximum speed...", "to place an electrical load on the motor if the first current ...", etc. These clauses, as well as other statements of intended use do not serve to patently distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647.

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

Any one of the systems in the cited references is capable of being used in the same manner and for the intended or desired use as the claimed invention. It is

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sufficient to show that such capability exists, as in the case of the two cited combinations.

Information Disclosure Statement

8. The information disclosure statement filed 9/13/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The information disclosure statement filed 9/13/04 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References C-F further illustrate prior art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 703-306-5756. The examiner can normally be reached on 6:30-5:00, Mon-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Carone can be reached on 703-306-4198. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RJP
October 18, 2004

RPalabrica